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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 4

Application Number: 09/124,642
Filing Date: July 29, 1998
Appellant(s): NI ET AL.

Kevin A. Reif
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 3/4/2003.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1-19 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

6,081,567	Olafsson	6-2000
6,011,821	Sauer et al.	1-2000

5,259,004 Nakayama 11-1993

Jordan, F. E. and Mead, C. A. "Synchronous Transmitter-Receiver Clocking Method" IBM Technical Disclosure Bulletin, vol. 7, No. 12, May 1965, pp. 1189-1191.

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-19 are rejected under 35 U.S.C. 103. This rejection is set forth in prior Office Action, Paper No. 10 and repeated bellow, with additional details added, for the convenience of the board.

(11) Response to Argument

Before answering appellants' argument, it is worthwhile to review the subject matter being claimed by appellants' invention. The claimed subject matter, in general, is **to synchronize both ends of a bi-directional communication path any time the reception is lost at one end by repeatedly transmitting a sequence of predetermined characters, from the end losing reception, to the other end until synchronization is gained and/or regained**. The examiner position is that the combination of the prior art of record, as cited, teach the claimed subject matter as a whole including the motivation for combining them. Specifically, column 3, lines 12-13 of Sauer et al. patent teaches, in the same field of endeavor, when synchronization or resynchronization is required; and column 11, lines 8-37 of the Patent issued to Olafsson teaches how to achieve the synchronization/resynchronization by repeatedly transmitting one **or more** repetition of a known (i.e. predetermined) symbol. This is

explained in the prior Office Action and repeated below for the convenience of the board.

Claim Rejections - 35 USC § 103

I. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

II. Claims 1, 7-10, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sauer et al. (US Patent 6,011,821) in view of Olafsson (US Patent 6,081,567). As to claims 1, 10, and 16, Sauer et al. disclose the conditions under which synchronization or resynchronization is required in a communication system such as the loss of reception (see col. 3, lines 12-13). On the other hand, Olafsson discloses, in the same field of endeavor, that upon the determination that the synchronization is lost

between two ends (two modems) a repetition of a known set of symbols (i.e. predetermined characters) is transmitted from one end (i.e. one of the modems) to the other end until synchronization is regained (i.e. the two ends are resynchronized). See col. 11, lines 8-50. Therefore, it would have been obvious to one of ordinary skill in the art to, upon the loss of reception, repeatedly transmit a sequence of known characters from the end losing reception to the other end in order to gain resynchronization because first, a sequence of synchronization characters must be known to both end and second, several repetition of the transmission of synchronizing sequence insures the reliability of synchronization. As to claims 7, and 9 Sauer et al. teaches using different time windows for receiving and detection of expected signal before it generates an error signal or when three successive frames are absent within a certain time period (see col. 3, lines 19-59). Therefore, such time windows for receiving a certain number of characters or detection schemes similar to the ones recited in claims 7 and 9 are well known or a matter of common knowledge in the art. As to claim 8, Sauer teaches that after synchronization is achieved, if an error occurs (invalid data, for example) a reset process is applied at that end (the modem's end) until the error is no longer present (see col. 3, lines 24-30). As to claims 17-19, the recited compatibility or lack of compatibility with various standards and specifications are part of systems design criteria as is common in many networks.

III. Claims 2, 3, 5, 6, 11, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sauer and Olafsson as applied to claims 1 and 10 above, and further in view of Jordan et al. (IBM Technical Disclosure Bulletin, May 1965). Sauer and Olafsson disclose all the subject matter claimed, see paragraph 3 above, except for the further limitation as recited in claims 2, 3, 5, 6, 11, and 12-15. Jordan teaches, in the same field of endeavor, the use of Idle characters for resynchronization. See page 3,

paragraph 3. Furthermore, as explained above, the difference in type of synchronization characters (e.g. Idle, idle 1, or any other type) or the consecutive number synchronization character being transmitted to achieve synchronization does not make the claimed subject matter patentably distinct over the prior art because, as explained above, synchronization characters are still a set of combinations of "1s" and "0s" and therefore, one of ordinary skill in the art can select, based on the design criteria, a specific combination of characters or a specific repetitions of them as synchronization characters; especially, as pointed to above, applicants themselves admit that any characters may be employed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to choose any character set as synchronization characters because synchronization characters are simply a combination set of non-data characters which are designed to be conventionally recognized by transmitter and receiver as synchronizing characters to synchronize the transmitter with the receiver.

IV. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sauer and Olafsson as applied to claim 1 above, and further in view of Nakayama (US Patent 5,259,004).

Sauer and Olafsson disclose all subject matter claimed, see above, except for the further limitation as claimed in claim 4. In col. 5, line 62 to col. 6, line 1, Nakayama teaches signaling the loss of synchronization. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to signal the loss of synchronization in order to start proper process to gain resynchronization.

(11) Response to Argument

Before answering appellants' argument, again it is worthwhile to review the subject matter being claimed by appellants' invention. Each of the independent claims 1, 10, and 16 are in general directed to **synchronizing both ends of a bi-directional communication path any time the reception is lost at one end by repeatedly transmitting a sequence of predetermined characters, from the end losing reception, to the other end until synchronization is gained and/or regained.** That is, in general, each of the independent claims comprises:

-A bi-directional communication path with two ends (i.e. nothing specific such as modem, computer, transceiver, ...etc. is said about each end). -Repeatedly transmitting from an end of the bi-directional path a sequence of predetermined characters if reception is lost at that end. -Resynchronizing both ends of the path if the sequence of the predetermined characters is received at the other end. Therefore, according to the claim subject matter, one end must first lose reception; and then, upon the loss of reception attempt to regain synchronization by repeatedly transmitting a sequence of predetermined characters to the other end. One of ordinary skill in the art clearly recognizes (as it is obvious from the language of the claims) that the loss of reception causes the loss of synchronization. In view of the above explanation, let us now consider the teachings of Sauer and Olafsson. Sauer teaches various events in a communication link, after-which a synchronization or resynchronization is required (col. 3, lines 7-15), and specifically (i.e. item 4, lines 12-13) when an interruption to the transmission path (i.e. loss of reception) has occurred. Olafsson, on the other hand,

teaches regaining synchronization -after synchronization is lost- in a bi-directional communication path having two ends (i.e. a modem at each end). See col. 11, lines 7-37. In addition, Olafsson teaches that the process of resynchronization is initiated by the modem at the end which losses synchronization (see col. 11, lines 16-18); and furthermore, the resynchronization is gained by repeatedly transmitting one **or more** (emphasis added) repetition of a known (i.e. predetermined) symbol (see col. 11, lines 31-34). The examiner's position is that one of ordinary skill in the art at the time the invention was made would have been able to combine the teachings of Sauer and Olafsson and arrive at the claimed subject matter as recited in independent claims 1, 10, and 16; because all of the essential elements of claims 1, 10, and 16 (i.e. a two ended bi-directional communication path, the event at which synchronization is lost, and the procedure to regain synchronization) are disclosed in the above references including the motivation to combine (col. 11, lines 39-51 of Olafsson's patent). In pages 6 and 7 of their brief, appellants try to divert the attention from the real issue here (i.e. the combination of Sauer and Olafsson patents disclose the claimed subject matter) by pointing to sections of Sauer and Olafsson references which has nothing to do with the real issue here; and that is, what the appellants have chosen to claim (i.e. as broad as is claimed) is clearly taught by the combination of Sauer and Oalfsson including the motivation to combine as pointed to in above. Also, in page 7, items 3 and 4 of the submitted brief, appellants argue that the examiner's use of Jordan and Nakayama's references is improper. The examiner responds that:

1. Idle Characters are well established standard characters (not the appellants' invention) used for non-data signaling such as synchronization/resynchronization as disclosed by Jordan and admitted to by appellants. See page 7, line 13 of the submitted brief.

2. One of ordinary skill in the art clearly recognizes that successive transmission of X number of Idle characters for achieving synchronization/resynchronization is clearly a matter of design choice, that is, as the number of repetitions increases so does the reliability of synchronization but at the expense of transmission time and bandwidth; therefore, it becomes a matter of give and take. In dependent claims 2, 3, ...etc., appellants themselves recite various options of one, two, three, and sevens repetitions. Therefore, one may simply modify the combined teachings Olafsson and Jordan by selecting a different number of successive Idle characters to achieve synchronization because the receiving end can simply be set to look for predetermined number successive idle characters to confirm synchronization/resynchronization.

3. Signaling the loss of synchronization, either internally or externally, to take proper action has been in common use since the advent of modern communication because any two communicating nodes must frequently check and verify synchronization in order to accomplish reliable communication. This is clearly disclosed by Nakayama which the examiner used it in his rejection of claim 4 to solidify his position.

As explained in detail above and in prior Office Actions, all of the references cited in rejection of the claims and the knowledge generally available to one of ordinary skill in the art teach all limitations of claimed subject matter including the motivation to combine (i.e. using repetitions to insure synchronization reliability) to establish a *prima facie* case

of obviousness as mandated by MPEP, and therefore, it is believed that the rejections should be sustained.

Respectfully submitted;

Mohammad Ghayour

Primary Examiner, Art Unit 2634

May 16, 2003

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